

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

North American Plant Breeders

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Answer'



Attest:

James H. Lee
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 18th day of February in the year of our Lord one thousand nine hundred and eighty-two.

John R. Block
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

INSTRUCTIONS: See Reverse.

| | | | | | |
|---|--|---|--|---|-----------------------------|
| 1a. TEMPORARY DESIGNATION OF VARIETY NAPB 63 | | 1b. VARIETY NAME Answer | | FOR OFFICIAL USE ONLY PV NUMBER 8000037 | |
| 2. KIND NAME Alfalfa | | 3. GENUS AND SPECIES NAME Medicago Sativa | | FILING DATE 12-27-79 | TIME 3:30 P.M. |
| 4. FAMILY NAME (BOTANICAL) Leguminacea | | 5. DATE OF DETERMINATION December 1975 | | FEE RECEIVED \$ 500.00 \$ 250.00 | DATE 12-27-79 12/8/81 |
| 6. NAME OF APPLICANT(S) North American Plant Breeders | | 7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Drive P. O. Box 2955 Mission, Kansas 66205 | | 8. TELEPHONE AREA CODE AND NUMBER 913-384-4940 | |
| 9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation | | 10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Connecticut | | 11. DATE OF INCORPORATION March 9, 1973 | |
| 12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Mr. Giles E. Dixon, Research Director North American Plant Breeders P. O. Box 2955, Mission, Kansas 66205 Dr. J. B. MOUTRAY DJS | | | | | |

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ^{2 only}
No registered class ☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

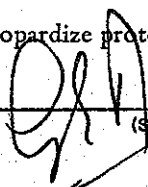
16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

12-19-79
(DATE)


(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

8000037

EXHIBIT A

Origin and Breeding History of the Variety
'Answer'

'Answer' is a 57 clone synthetic variety with parantage tracing to Anchor (30 clones), Apollo (15 clones) and an NAPB Hardy germplasm pool (12 clones). 'Answer' was derived by submitting the above named varieties and germplasm to additional field screening (Ames, Iowa) for resistance to Phytophthora root rot. An average of five cycles of phenotypic recurrent selection for Phytophthora resistance were employed in the development of 'Answer'.

Breeder seed was formed by interpollinating approximately 20,000 cuttings dervied from the 57 parent clones in isolation near Nampa, Idaho.

During seed multiplication no variants beyond the limits defined under Exhibit C have been found and multiplication procedure will ensure that seed being sold as 'Answer' will not be shifted in characteristics beyond presently acceptable limits for alfalfa varieties.

It is also confirmed that 'Answer' meets presently acceptable levels of uniformity for alfalfa varieties.

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EXHIBIT B

Novelty Statement

'Answer'

'Answer' most closely resembles the variety 'Apollo' considering all characteristics. 'Answer' differs from 'Apollo' by having a higher level of Phytophthora resistance (Barnes letter) and less resistance to the spotted alfalfa aphid biotype H (Table 1).

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATION

8000037

AUG 14 1979

AGRICULTURAL RESEARCH
NORTH CENTRAL REGION
PLANT SCIENCE RESEARCH UNIT
DEPARTMENT OF AGRONOMY AND PLANT GENETICS
UNIVERSITY OF MINNESOTA
1509 GORTNER AVENUE
ST. PAUL, MINNESOTA 55108

August 10, 1979

Dr. Jim B. Moutray
Director of Forage Research
North American Plant Breeders
R.R. #3
Ames, IA 50010

Dear Jim:

Your letter of May 29, requesting assistance differentiating the Phytophthora root rot resistance of several alfalfa varieties caught me at a very busy season. Sorry for the delay in answering. I hope it has not inconvenienced you.

According to my records and those of the National Alfalfa Certified Variety Review Board, G7730 is not a recognized alfalfa variety. We have not tested any such variety at Minnesota. Unfortunately, we have not tested 'Apollo', 'Trident', and 'Answer' in the same test for Phytophthora root rot resistance. But, it is possible to compare their respective resistances in relation to the resistant check variety 'Agate'. Data are presented for both average severity index (ASI) and % resistant plants.

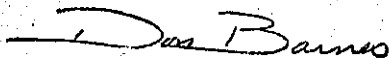
| Entry | ASI per test | | | |
|-----------------------------|--------------|-------|-------|-------|
| | 1974 | 1976F | 1977F | 1977P |
| Saranac (Susceptible Check) | 4.19 | 4.31 | 4.74 | 4.52 |
| Agate (Resistant Check) | 2.61 | 2.83 | 3.07 | 2.94 |
| Apollo | 2.73 | ---- | ---- | 2.92 |
| Answer 63 | ---- | 2.34 | 2.58 | ---- |
| Trident 61 | ---- | 2.42 | 2.63 | ---- |
| LSD 5% Level | .46 | .45 | .48 | .36 |
| CV % | 9.5 | 7.6 | 8.2 | 6.1 |

| Entry | % Resistant plants per test | | | |
|-----------------------------|-----------------------------|-------|-------|-------|
| | 1974 | 1976F | 1977F | 1977P |
| Saranac (Susceptible Check) | 4.1 | 2.0 | 0.7 | 1.6 |
| Agate (Resistant Check) | 47.1 | 34.8 | 34.7 | 42.1 |
| Apollo | 43.7 | ---- | ---- | 40.3 |
| Answer | ---- | 57.0 | 49.4 | ---- |
| Trident | ---- | 61.7 | 52.4 | ---- |

Based on our observations in Minnesota tests Apollo has slightly less resistance than Agate, but these differences are not statistically or economically different. Both Answer and Trident are more resistant than Agate, therefore they would be more resistant than Apollo.

I hope the above data will be useful. Best wishes.

Sincerely,



DONALD K. BARNES
Research Geneticist

DKB:sjl

cc: F. I. Frosheiser

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Table 1. Reaction of NAPB alfalfa varieties to spotted alfalfa aphid biotype H¹

| Variety | % seedling survival | Variety | % seedling survival | Variety | % seedling survival |
|------------------|---------------------|-------------------|---------------------|-------------------|---------------------|
| G7730 | 0 | Apollo | 48.25 | Apollo | 46.25 |
| Answer | 9.96 | MSTT res.ck. | 88.75 | MSTT res. ck. | 92.0 |
| Trident | 17.69 | | | | |
| MSTT res. ck. | 75.55 | | | | |
| LSD.05 | 13.46 | LSD.05 | 22.83 | LSD.05 | 19.29 |
| test August 1979 | | test October 1979 | | test January 1979 | |

¹Tests conducted by Dr. M. Nielson University of Arizona.

OBJECTIVE DESCRIPTION OF VARIETY
Alfalfa (Medicago sativa L. complex)

| | |
|--|--|
| NAME OF APPLICANT(S) North American Plant Breeders | VARIETY NAME OR TEMPORARY DESIGNATION Answer |
| ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 5201 Johnson Drive P. O. Box 2955 Mission, Kansas 66205 | FOR OFFICIAL USE ONLY PVPO NUMBER 80000367 <i>DAS 7 APR 80</i> |

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

NOTE: For single plant data a minimum of 100 plants is suggested

| | | |
|--|--|---|
| 1. PRIMARY AREA OF ADAPTATION | | INDICATE AREA WHERE TEST WAS CONDUCTED. FURTHER EXPLANATION CAN GO IN COMMENTS AT THE END OF THE FORM. |
| <input type="text" value="2"/> | 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST 5 = SOUTHWEST 6 = SOUTHERN PLAINS 7 = INTERMOUNTAIN | <input type="text"/> AREA TESTED |
| 2. WINTER HARDINESS | | |
| <input type="text" value="7"/> | 1 = NON-HARDY (Mesa Sirsa) 3 = INTERMEDIATE NON-HARDY 5 = MODERATELY HARDY (Saranac) 7 = HARDY (Vernal) 9 = EXTREMELY HARDY (Norseman) | <input type="text"/> AREA TESTED |
| <input type="text" value="2"/> | SOURCE OF INFORMATION: 1 = ANTICIPATED 2 = MEASURED | 1 2 3 6 |
| 3. FALL GROWTH HABIT | | |
| <input type="text" value="6"/> | 1 = ERECT (Mesa Sirsa) 3 = SEMIERECT (DuPuits) 5 = INTERMEDIATE (Saranac) 7 = SEMIDECUMENT (Vernal) 9 = DECUMBENT (Norsement) | <input type="text" value="2"/> AREA TESTED |
| 4. RECOVERY AFTER FIRST SPRING CUTTING | | |
| <input type="text" value="3"/> | 1 = VERY FAST (Mesa Sirsa) 3 = FAST (Saranac) 5 = INTERMEDIATE 7 = SLOW (Vernal) 9 = VERY SLOW (Norseman) | <input type="text" value="2"/> AREA TESTED |
| 5. FLOWERING DATE (FIRST SPRING GROWTH) | | |
| <input type="text" value="0"/> <input type="text" value="2"/> | DAYS EARLIER THAN <input type="text" value="4"/> <i>DAS FOR LETTER OF 15 SEPT 80</i> DAYS LATER THAN <input type="text"/> | <input type="text" value="2"/> AREA TESTED |
| 6. CROWN TYPE | | |
| <input type="text" value="6"/> | 1 = SPREADING ROOTS 3 = SPREADING RHIZOMES (Teton) 5 = BROAD (Vernal) 7 = INTERMEDIATE (Saranac) 9 = NARROW (Mesa Sirsa) | <input type="text" value="2"/> AREA TESTED |
| 7. PLANT COLOR | | |
| <input type="text" value="6"/> | 3 = DARK GREEN (Weevichek) 5 = GREEN (Vernal) 7 = LIGHT GREEN (Ranger) | <input type="text" value="2"/> AREA TESTED |
| 8. HAIRINESS | | |
| <input type="text"/> <input type="text"/> <input type="text"/> | % PLANTS WITH PUBESCENT STEMS | <input type="text"/> <input type="text"/> <input type="text"/> % PLANTS WITH PUBESCENT PODS |
| 9. POD SHAPE | | |
| <input type="text"/> <input type="text"/> <input type="text"/> | % PLANTS WITH TIGHT COILS | <input type="text"/> <input type="text"/> <input type="text"/> % PLANTS WITH LOOSE COILS |
| <input type="text"/> <input type="text"/> <input type="text"/> | | <input type="text"/> <input type="text"/> <input type="text"/> % PLANTS WITH SICKLE PODS (Less than 1 coil) |

10. GIVE ITEM LENGTH FREQUENCY DISTRIBUTION FOR SUBMITTED AND 1 TO 5 STANDARD VARIETIES 1/

| VARIETY NAME | STEM LENGTH FREQUENCY DISTRIBUTION 2/ | | | | | | | | | | | AVERAGE STEM LENGTH |
|--------------|---------------------------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------|---------------------|
| | 0 - 5 mm. % | 6 - 10 mm. % | 11 - 15 mm. % | 16 - 20 mm. % | 21 - 30 mm. % | 31 - 40 mm. % | 41 - 50 mm. % | 51 - 60 mm. % | 61 - 70 mm. % | 71 - 80 mm. % | 81 + mm. % | |
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11. FLOWER COLOR 3/ (DETERMINE COLOR ON FRESHLY OPENED FLOWERS)

0 9 6 % PURPLE 0 0 3 % VARIEGATED % YELLOW 0 0 1 % CREAM % WHITE

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

| DISEASE | CULTIVAR | % RESISTANT PLANTS | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
|-----------------------|-------------------------|--------------------|---------------------------|--------------------------|--|
| BACTERIAL WILT | (SUBMITTED) | 53.1 | 1.52 | .43 | 1977 University of Minnesota St. Paul |
| | (RES. CK.) VERNAL | 44.4 | 1.79 | | |
| | (SUS. CK.) NARRAGANSETT | 2.2 | 3.67 | | |
| ANTHRACNOSE | (SUBMITTED) | 14.2 | | % res. LSD.05 10.8 | 1978 North Carolina State University Raleigh |
| | (RES. CK.) ARC | 73.8 | | | |
| | (SUS. CK.) SARANAC | 4.4 | | | |
| COMMON LEAF SPOT | (SUBMITTED) | | | | |
| | (RES. CK.) RAMSEY | | | | |
| | (SUS. CK.) RANGER | | | | |
| DOWNY MILDEW | (SUBMITTED) | | | | |
| | (RES. CK.) SARANAC | | | | |
| | (SUS. CK.) KANZA | | | | |
| PHYTOPHTHORA ROOT ROT | (SUBMITTED) | 57.0 | 2.34 | .45 | 1976 UNIV. OF MINN. ST. PAUL DCB PER LETTER OF 15 SEPT 80 |
| | (RES. CK.) AGATE | 34.8 | 2.83 | | |
| | (SUS. CK.) SARANAC | 2.0 | 4.31 | | |
| Fusarium wilt | (SUBMITTED) | 57.1 | 2.27 | .62 | 1978 UNIV. OF MINN. ST. PAUL DCB PER LETTER OF 15 SEPT 80 |
| OTHER | Moapa 69 (RES. CK.) | 87.1 | .89 | | |
| Fusarium Oxysporum | Mn GN-1 (SUS. CK.) | 2.4 | 4.79 | | |

1/ Preferred standards: Saranac, Vernal, Norseman, Lahontan, Mesa Sirsa. Twelve hours light at 25° C with 20,000 lux of cool white florescent; 2,000 lux of incandescent filament light and twelve hours darkness at 5° C.

2/ From cotyledonary node to tip of stem 20 days after planting.

3/ For further clarification consult USDA Agricultural Handbook No. 424.

4/ Give: The institution in charge of test, (2) year, and (3) location of test. Describe test procedure if it differs from procedure suggested in ARS-NC-19,

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

| DISEASE | CULTIVAR | % RESISTANT PLANTS | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
|------------------------------------|-----------------------|---------------------|---------------------------|-----------------|---|
| OTHER | (SUBMITTED) | | | | |
| | (RES. CK.) | | | | |
| | (SUS. CK.) | | | | |
| OTHER | (SUBMITTED) | | | | |
| | (RES. CK.) | | | | |
| | (SUS. CK.) | | | | |
| INSECT | CULTIVAR | % SEEDLING SURVIVAL | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
| PEA APHID | (SUBMITTED) | | | | |
| | (RES. CK.) KANZA | | | | |
| | (SUS. CK.) RANGER | | | | |
| Biotype H SPOTTED ALFALFA APHID | (SUBMITTED) | 9.96 | | 13.46 | 1979 Tucson Arizona |
| | MSTT | 75.5 | | | |
| | (RES. CK.) KANZA | | | | |
| | (SUS. CK.) RANGER | | | | |
| INSECT | CULTIVAR | % DEFOLIATION | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
| ALFALFA WEEVIL | (SUBMITTED) | | | | |
| | (RES. CK.) ARK | | | | |
| | (SUS. CK.) VERNAL | | | | |
| INSECT | CULTIVAR | % RESISTANT PLANTS | EMERGED ADULTS PER PLANT | EMERGED LSD .05 | TEST, YEAR & LOCATION 4/ |
| ALFALFA SEED CHALCID | (SUBMITTED) | | | | |
| | (RES. CK.) LAHONTAN | | | | |
| | (SUS. CK.) SONORA | | | | |
| INSECT | CULTIVAR | % RESISTANT PLANTS | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
| POTATO LEAF-HOPPER | (SUBMITTED) | 4.78 | 5.49 | .37 | 1977 North American Plant Breeders Ames, Iowa |
| | Weevilchek (RES. CK.) | 36.82 | 4.03 | | |
| | Saranac (SUS. CK.) | 7.95 | 5.48 | | |
| OTHER | (SUBMITTED) | | | | |
| | (RES. CK.) | | | | |
| | (SUS. CK.) | | | | |

4/ Give: The institution in charge of test, (2) year, and (3) location of test. Describe test procedure if it differs from procedure suggested in ARS-NC-19, September 1974.

12. DISEASE, INSECT, AND NEMATODE RESISTANCE: (Enter resistance of submitted and check cultivars. Circle check cultivars used.)

| INSECT | CULTIVAR | % RESISTANT PLANTS | AVG. SEVERITY INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
|-----------------------------------|-------------------------|--------------------|---------------------------|----------------|--------------------------|
| OTHER | (SUBMITTED) | | | | |
| | (RES. CK.) | | | | |
| | (SUS. CK.) | | | | |
| NEMATODE | CULTIVAR | % RESISTANT PLANTS | INDEX (ASI) | ASI LSD .05 | TEST, YEAR & LOCATION 4/ |
| STEM NEMATODE | (SUBMITTED) | | | | |
| | (RES. CK.) LAHONTAN | | | | |
| | (SUS. CK.) RANGER | | | | |
| NORTHERN ROOT KNOT NEMATODE | (SUBMITTED) | | | | |
| | (RES. CK.) NEV. SYN. XX | | | | |
| | (SUS. CK.) LAHONTAN | | | | |
| SOUTHERN ROOT KNOT NEMATODE | (SUBMITTED) | | | | |
| | (RES. CK.) MOAPA 69 | | | | |
| | (SUS. CK.) LAHONTAN | | | | |
| OTHER | (SUBMITTED) | | | | |
| | (RES. CK.) | | | | |
| | (SUS. CK.) | | | | |

13. INDICATE A VARIETY THAT MOST CLOSELY RESEMBLES THE VARIETY SUBMITTED FOR THE FOLLOWING CHARACTERS:

| CHARACTER | VARIETY | CHARACTER | VARIETY |
|---------------------------|---------|------------------|---------|
| AREA OF ADAPTATION | Apollo | PLANT HEIGHT | Apollo |
| RECOVERY AFTER CUTTING | Apollo | WINTER HARDINESS | Apollo |

REFERENCES

Barnes, D.K., and C.H. Hanson, An Illustrated Summary of Genetic Traits in Tetraploid and Diploid Alfalfa, ARS Technical Bul. 1370.
 Barnes, D.K., et al, Standard Tests to Characterize Pest Resistance in Alfalfa Varieties. ARS-NC-19, September 1974.
 Nittler, L.W., G.W. McKee, and J.L. Newcomer, Principles and Methods of Testing Alfalfa Seed for Varietal Purity. New York Agricultural Experiment
 Station Bul. 807.
 USDA Agricultural Handbook No. 424.

COMMENTS

LOADING